



THE STATE
of **ALASKA**
GOVERNOR MIKE DUNLEAVY

Department of Natural Resources

DIVISION OF OIL AND GAS

550 W. 7th Avenue Suite 1100
Anchorage, Alaska 99501-3560
Main: 907.269.8800
Fax: 907.269.8939

May 3, 2023

PUID: LONS-79-016-PM031423A

Steve Brashear
Senior Environmental Coordinator
ConocoPhillips Alaska, Inc.
P.O. Box 100360
Anchorage, AK 99510-0360

RE: LONS 79-016, ConocoPhillips Alaska, Inc., Kuparuk River Unit, KRU, Road Upgrades Unit Plan of Operations Amendment Decision.

Dear Mr. Brashear:

The Alaska Department of Natural Resources, Division of Oil and Gas (Division), in accordance with Alaska Statute 38.05 and Alaska Oil and Gas Leasing Regulations (11 AAC 83) grants authorization to conduct activities on state lands as proposed in the Kuparuk River Unit (KRU) Plan of Operations (Plan) amendment application dated March 14, 2023 for the above referenced project.

Scope:

ConocoPhillips Alaska, Inc. (CPAI) is requesting authorization to upgrade sections of the road between the 12-Acre Pad and Drill Site 2L (DS-2L) by placing approximately 47,000 cubic yards of clean gravel fill, resulting in five acres of impacted tundra along the roadside in the KRU. The purpose of this project is to widen curves and increase thickness in segments of the road system to allow for safe transport of modules for western North Slope development. These upgrades will require road improvements at six culverts. Additionally, three culverts will be extended, and nine culverts will be replaced. CPAI will utilize typical construction equipment including gravel-hauling trucks, road graders, and compactors. All work will take place from existing gravel. This project is scheduled to begin May 2023.

Plan activities include:

- Source gravel from Mine Sites C and E.
- Gravel placement.
- Culvert replacement or extension.

Location information:

KRU
Road Upgrades

Meridian: Umiat Township: 13N, 12N, 11N, 10N Range: 9E, 8E, 7E
Section: 1, 11, 12, 13, 14, 15, 16, 19, 20, 21, 22, 23, 24, 26, 27, 28, 29, 33
Latitude, Longitude: 70.48632, -149.84133 NAD83
ADL(s): 25646
Associated Permits: LONS 79-016, 81-180, 81-172, 81-179, 81-180, 81-185, 83-002, 84-132, 85-097

Agency review:

The Division provided a review and comment opportunity for the activities considered for the authorization under this decision. The following government entities were notified on March 15, 2023, for comment on the Plan: US Army Corp of Engineers (USACE), Alaska Department of Environmental Conservation (ADEC), Alaska Department of Fish and Game (ADF&G), Alaska Department of Natural Resources: Division of Mining, Land & Water (DMLW) and Oil and Gas (DOG), and the North Slope Borough (NSB). The comment deadline was 4:30 pm Alaska time on March 29, 2023. One comment was received and resolved without modifying the plan.

Public notice:

Public notice of the Plan and opportunity to comment, per AS 38.05.035, was published in the Anchorage Daily News and Arctic Sounder on March 23 and April 6, with a deadline for comments on April 23, 2023, at 4:30 pm Alaska time. Additionally, a copy of the notice was posted on DNR's website and faxes of the public notice were sent to the Nuiqsut, Deadhorse, and Utqiagvik post offices. Comments and one letter of support were received. See Appendix B for the public comments and responses.

Conditions/Stipulations:

A certified As-Built Survey of the activity shall be provided within one year of placement of the improvement. This As-Built must contain a hard copy, as well as a digital GIS file containing a shapefile or ESRI Feature Class.

Please attach this amendment approval with the original decision. This unit operations amendment approval is issued in accordance with Alaska Statute 38.05, Alaska Administrative Codes 11 AAC 83.346 and 11 AAC 83.303. The Division reviewed this amendment under the unit regulation for the Plan, 11 AAC 83.346, and considers the factors set forth in 11 AAC 83.303(a) and (b). The amendment was also evaluated against the KRU agreement for conformance.

This approval signifies only that the State of Alaska has no objection to the operations outlined in the Plan amendment application. It does not constitute certification of any property right or land status claimed by the applicant nor does it relieve the applicant of responsibility to obtain approvals or permits from other persons or governmental agencies that may also be required. All stipulations contained in the original lease and subsequent Plan approvals remain in full force and effect.

If activities have not commenced, this approval expires on May 3, 2026. Failure to comply with the terms and conditions outlined in the lease, the attached stipulations, and this authorization may result in revocation of this unit operations approval.

Any questions or concerns about this amendment may be directed to Natural Resource Specialist Molly Fenton at (907)375-7750 or emailed to molly.fenton@alaska.gov.

Sincerely,


76A237A029C547D...
Ashley Ethridge
Natural Resource Specialist

A person affected by this decision may appeal it, in accordance with 11 AAC 02. Any appeal must be received within 20 calendar days after the date of “issuance” of this decision, as defined in 11 AAC 02.040(c) and (d) and may be mailed or delivered to the Commissioner, Department of Natural Resources, 550 W. 7th Avenue, Suite 1400, Anchorage, Alaska 99501; faxed to 1-907-269-8918, or sent by electronic mail to dnr.appeals@alaska.gov. Under 11 AAC 02.030, appeals and requests for reconsideration filed under 11 AAC 02 must be accompanied by the fee established in 11 AAC 05.160(d)(1)(F), which has been set at \$200 under the provisions of 11 AAC 05.160 (a) and (b). This decision takes effect immediately. If no appeal is filed by the appeal deadline, this decision becomes a final administrative order and decision of the department on the 31st calendar day after issuance. An eligible person must first appeal this decision in accordance with 11 AAC 02 before appealing this decision to Superior Court. A copy of 11 AAC 02 may be obtained from any regional information office of the Department of Natural Resources.

Attachments: Figure(s) 1-16
Appendix B: Public Comments and Responses
2018 North Slope Mitigation Measures

ecc: DOG: Graham Smith, James Hyun, Ashley Ethridge, Alex Zinck, Hayley Beitel, Molly Fenton, DOG Units, and SPCO Records
DMLW: Northern Region Office, SAIL, and Henry Brooks
ADF&G: Maria Wessel and Chelsea Clawson
ADEC: Laurie Silfven, DEC Water Oil and Gas, DEC Agency Reviews, and ADEC Contaminated Sites
Borough: North Slope Borough Planning and Permitting
Other: USACE

Appendix B: Public Comments

USFWS Comment #1: Threatened and Endangered Species

The purpose of the Endangered Species Act (ESA) is to conserve threatened and endangered species and the ecosystems upon which they depend. Projects that may affect listed species and/ or designated critical habitat must be evaluated under section 7(a)(2) of the ESA to ensure Federal agencies authorizing, funding, and/or conducting projects (i.e., a federal nexus) are not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of designated critical habitat. In this case, ESA-listed species and/or designated critical habitat occur within the project area, and we understand consultation has been completed with the Service's Biological Opinion for the Willow Development (finalized January 13, 2023). Please contact our Northern Alaska Fish and Wildlife Field Office, Consultation Branch at 907-456-0277, for additional guidance if the proposed project plans have changed since this consultation.

CPAI Response #1

Comment acknowledged.

Division Response #1

Division appreciates the comment and has been forwarded to CPAI.

USFWS Comment #2: Polar Bears

Polar bears are protected under the Marine Mammal Protection Act (MMPA) and were listed as a threatened species under the Endangered Species Act (ESA) in 2008. The MMPA and ESA both prohibit the "take" of polar bears with limited exceptions, such as for authorized incidental take and when necessary for human safety. Take includes disturbing, injuring, and killing polar bears. Polar bears use sea ice, marine waters, and terrestrial areas in northern and northwestern Alaska for resting, feeding, denning, and seasonal movements. They are most likely to be encountered within 25 miles of the coastline, especially along barrier islands during July-October. Polar bears may also be encountered farther inland, especially females during the denning period (November-April). Be aware that polar bears also occur within human settlements such as villages, camps, and work areas. CPAI is responsible for conducting actions and operations in a manner which does not cause disturbance or violate the Marine Mammal Protection Act. For more information, please contact the Service's Marine Mammal Management at <https://www.fws.gov/program/alaska-marine-mammals-management-office> or (800) 362-5148.

CPAI Response #2

Comment acknowledged.

Division Response #2

Division appreciates the comment and has been forwarded to CPAI.

USFWS Comment #3: Migratory Birds

The Migratory Bird Treaty Act (MBTA) prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the U.S. Fish and Wildlife Service. About 200 bird species migrate thousands of miles each year to breed on the North Slope where the brief summers provide exceptional habitat for their young (Andres 1994; Connors et al. 1984). The project area is known to host at least 34 species of migratory birds² listed as Alaska's species of greatest conservation need such as the King eider (*Somateria spectabilis*)³ and one, the American Golden-plover, listed as a bird of Conservation Concern.

The Service recommends constructing the expansion of the pad during frozen ground conditions, when most migratory birds are not present and potential impacts to adjacent wetlands during construction are minimized. If this timing becomes impracticable, the Service suggests employing measures to avoid disturbance during the nesting season when eggs, nestlings, and fledglings are most vulnerable. The most effective Best Management Practice to minimize injury or mortality is to conduct land disturbing activities (e.g., vegetation clearing, excavation, gravel fill, brush hogging, etc.) at the site before or after the avian breeding season on the North Slope, which is generally June 1–July 31.⁵ For example, an initial layer of gravel could be placed on the footprint during the frozen season to discourage nesting birds in the spring, and the remaining fill placed later. Additionally, we appreciate and support employing other conservation measures to minimize impacts to migratory birds. Please refer to our Migratory Bird Program website⁶ for examples of conservation measures to avoid and minimize impacts to birds.

CPAI Response #3

Comment acknowledged.

Division Response #3

Division appreciates the comment and has been forwarded to CPAI.

USFWS Comment #4: Eagles and Their Nests

Bald and Golden Eagles, as well as their nests, are protected from take, including disturbance. The proposed project area is not a typical type of preferred eagle habitat. Should an active eagle nest be observed in the project area at any time during the project, we recommend reviewing our eagle permit website (<https://www.fws.gov/program/eaglemanagement/eagle-permits>), and contacting our Regional Office (permitsR7MB@fws.gov or 907-786-3685) if you have questions.

CPAI Response #4

Comment Acknowledged.

Division Response #4

Division appreciates the comment and has been forwarded to CPAI.

USFWS Comment #5: Inter-jurisdictional Fish

Inter-jurisdictional fish are those species occurring in waters under the jurisdiction of one or more states and the exclusive economic zone,² such as anadromous species of least cisco and broad whitefish. Both these species occur in the proposed project area with their upstream limits terminating at three culvert locations along the proposed KRU Road Upgrades (East Fork Kalubik Creek and West Fork Ugnuravik River).^{3,4} The potential for fish passage at these three culvert locations have not been assessed by ADF&G, however, the culvert descriptions suggest all three locations have damaged culverts that may limit fish passage at times. For example, the battery of 14 culverts at the East Fork Kalubik Creek crossing has extensive inlet and outlet damage (Figure 1).

The Service recommends improving at least the East Fork Kalubik Creek and West Fork Ugnuravik River stream crossings to facilitate fish passage. We provide recommendations for stream crossing designs in our *Culvert Design Guidelines for Ecological Function*. The proposed extension of three culverts and replacement of nine culverts in the KRU road also represents an opportunity to do more than maintain the status quo for hydrologic passage, it is a chance to create ecological uplift and plan for future conditions. Correctly sized stream crossings within long linear roads can prevent ponding of sheet-flow and maintain natural flow throughout break-up and summer/fall rain events. Road crossings that maintain at least some floodplain connectivity are less likely to generate high discharge velocities that create scour at the outfall and inhibit fish passage. Crossings whose width is more than channel bankfull also require less inlet riprap/protection and avoid other problems such as debris and ice jams. Regarding habitat and floodplain functions of stream crossings, culvert batteries (e.g., East Fork Kalubik Creek) are not preferable to bridges or large diameter, flat bottomed culverts. Culvert batteries can back up and cause ponding, berm erosion, and thermal degradation of permafrost on the upstream side of the road and can extend the negative effects of the blockage far past the location it occurred.

CPAI Response #5

This project does not include any road upgrades or other work scope at either of those locations (East Fork Kalubik Creek and West Fork Ugnuravik River culverts), and it is not practicable to add unrelated work scope to the project at this time.

Division Response #5

Division appreciates the comment and has been forwarded to CPAI.

USFWS Comment #6: Invasive Species

The Service recommends implementing Best Management Practices (BMPs) for minimizing the introduction and transport of invasive species into and out of the project area, and we appreciate the prevention measures CPAI has taken to limit transport of invasive species in the Kugaruk River Unit (CPAI letter to Service April 03, 2023; RE: DS-3S), such as thoroughly washing equipment before entering the project area to remove dirt and debris that may harbor invasive plant seeds and reproductive

vegetative parts. Prevention measures are especially important along rivers and streams, which like wind, can transport invasive species into more remote areas of the state. Other BMPs can include using weed-free fill, certified weed free erosion control materials, appropriately disposing of spoil and vegetation contaminated with invasive species, and revegetating the area with local native plant species. A free self-paced training course on invasive species control can be found at <http://weedcontrol.open.uaf.edu/>, and additional BMPs can be found at the UAF Cooperative Extension Service by searching for “invasive” at <http://cespubs.uaf.edu/publications?>

CPAI Response #6

Comment acknowledged.

Division Response #6

Division appreciates the comment and has been forwarded to CPAI.

USFWS Comment #7: Mitigation

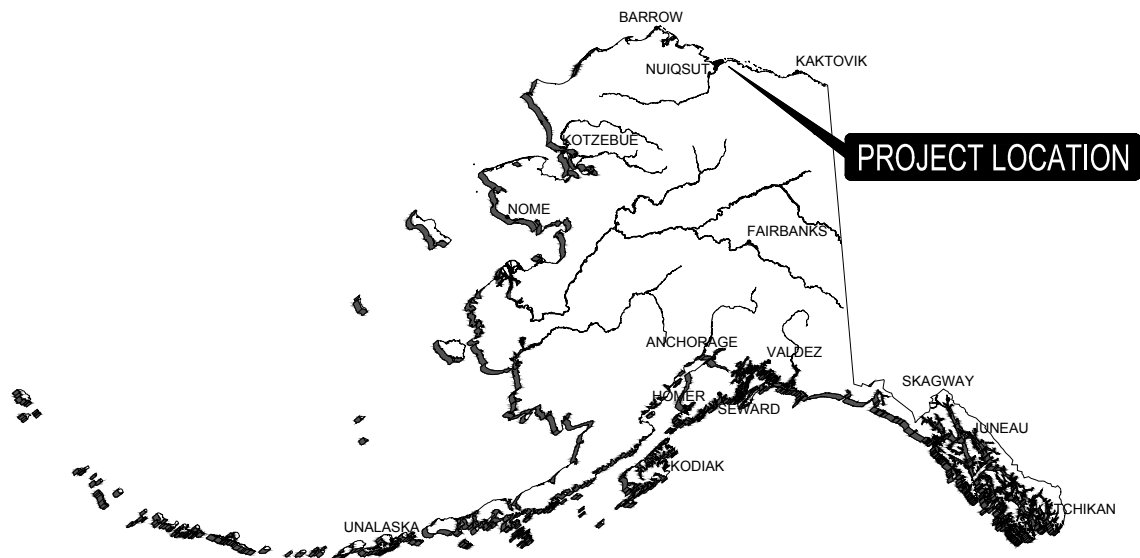
While the Service recognizes the ADOG does not require compensation for the loss of wetland habitat, the widening of this road does create the loss of five acres of tundra wetlands. We believe there is an opportunity for CPAI to collaborate with the Alaska District US Army Corps of Engineers to create ecological uplift for the project, or for future compensatory mitigation purposes by upgrading stream crossings at the time road improvements are conducted and culverts are upgraded. For example, in lieu of extending the culvert battery at Charlie Creek, a fish bearing stream, or when upgrading the road at East Fork Kalubik Creek (an anadromous stream), it would be preferable to remove the culvert battery and replace it with a bridge spanning the entire floodplain during construction rather than later as an independent action. Another option to create uplift is to replace existing culverts and culvert batteries with sufficiently sized square-bottom culverts to provide better fish passage and allow for increased floodplain connectivity.

CPAI Response #7

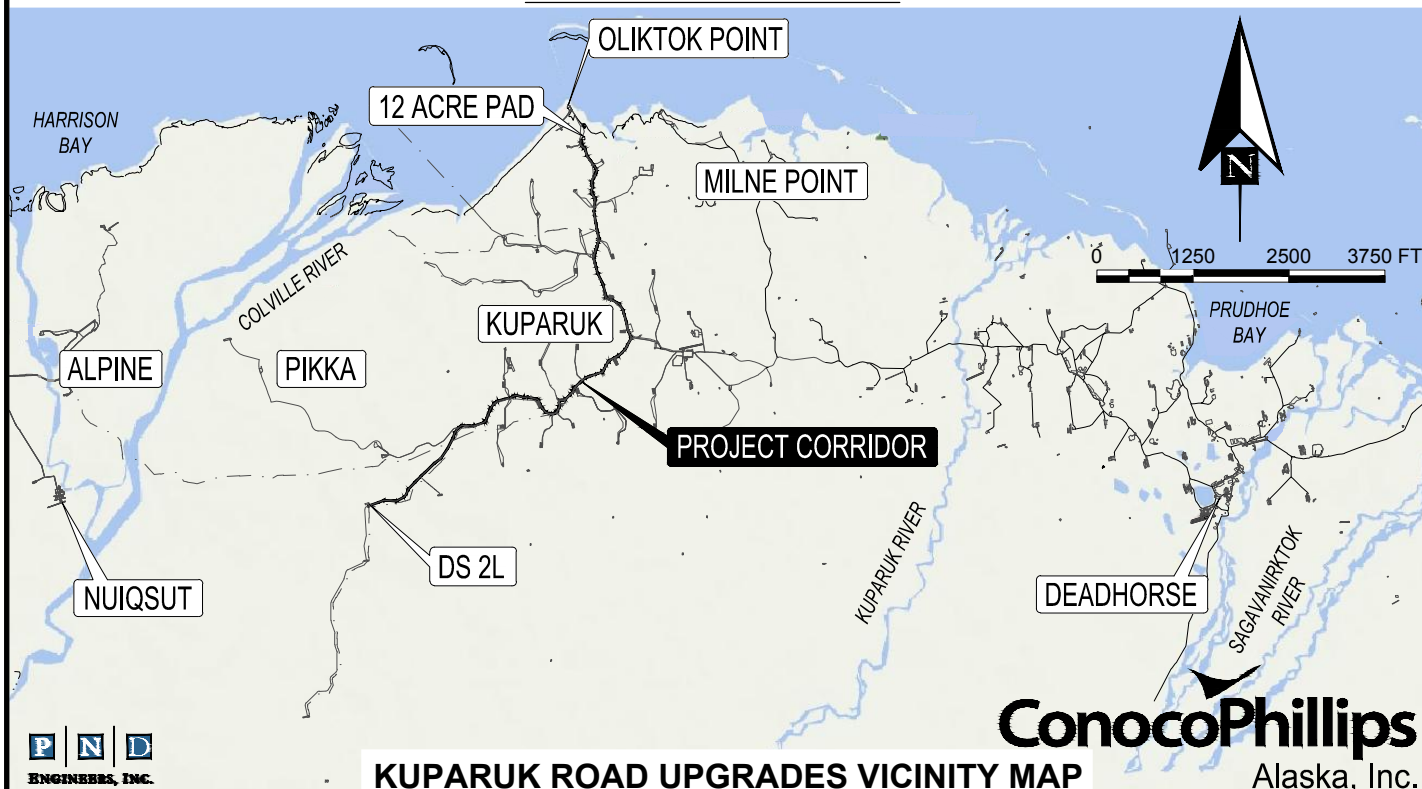
Compensatory mitigation is managed by the U.S. Army Corps of Engineers, and this project has already satisfied compensatory mitigation requirements under POA-2018-00190-M1. While the additional scope suggested by USFWS may potentially be adequate for future compensatory mitigation purposes, it is not practicable to add unrelated work scope to the project at this time.

Division Response #7

Division appreciates the comment and has been forwarded to CPAI.



ALASKA VICINITY MAP



ConocoPhillips
Alaska, Inc.

PURPOSE:
UPGRADE EXISTING KUPARUK
RIVER UNIT (KRU) ROADS FOR
WILLOW MODULE TRANSPORT

DATUM: BPMSL, NAD83 ASP ZONE 4

REFERENCE:

APPLICANT: CONOCOPHILLIPS
ALASKA, INC

LOCATION:

T13N R9E, T12N R9E, T11N R9E,
T11N R8E, T10N R8E, T10N R7E
UMIAT MERIDIAN

PROPOSED: KUPARUK ROAD
UPGRADES (WILLOW
MODULE TRANSPORT)

IN: KUPARUK RIVER UNIT
(KRU)

COUNTY: NORTH SLOPE BOROUGH
STATE: ALASKA

SHEET 1 of 12 3/14/2023

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1	VICINITY MAP
2	SHEET INDEX & QUANTITIES REPORTING
3	ADJACENT LAND OWNERS
4	ADJACENT LAND OWNERSHIP MAP
5	KUPARUK ROAD UPGRADES FOR WILLOW MODULE TRANSPORT OVERVIEW
6	KUPARUK ROAD UPGRADES FOR WILLOW MODULE TRANSPORT (SHEET 1 OF 3)
7	KUPARUK ROAD UPGRADES FOR WILLOW MODULE TRANSPORT (SHEET 2 OF 3)
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9	TYPICAL ROAD AND CROSS DRAINAGE CULVERT SECTIONS
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11	CHARLIE CREEK TRIBUTARY 1 FISH HABITAT IMPACTS PLAN VIEW
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KUPARUK ROAD UPGRADES – QUANTITIES		
ROAD SEGMENTS	FOOTPRINT (AC)	FILL VOLUME (CY)
12 ACRE PAD TO 2L	5.0	47,000

NOTE:

1. ACREAGE AND VOLUME QUANTITIES REPORTED ABOVE ARE PROJECT TOTALS, INCLUDING FILL IN UPLANDS AS WELL AS WATERS OF THE U.S.

FISH HABITAT – QUANTITIES		
STREAM	FOOTPRINT (AC)	FILL VOLUME (CY)
CHARLIE CREEK	0.010	9
CHARLIE CREEK TRIBUTARY 1	0.003	5
CHARLIE CREEK TRIBUTARY 2	0.004	3
TOTAL	0.017	17



REFERENCE:

APPLICANT: CONOCOPHILLIPS ALASKA, INC

PROPOSED: KUPARUK ROAD UPGRADES (WILLOW MODULE TRANSPORT)

AT: NORTH SLOPE, ALASKA

SHEET **2** of **12** 3/14/2023

SHEET INDEX & QUANTITIES REPORTING

KUUKPIK VILLAGE CORPORATION
P.O. BOX 89187
NUIQSUT, AK 99789
(907) 480-6220
ATTN: JOE NUKAPIGAK

BUREAU OF LAND MANAGEMENT
1150 UNIVERSITY AVENUE
FAIRBANKS, AK 99709
ATTN: NICHELLE JONES

ARCTIC SLOPE REGIONAL CORPORATION
P.O. BOX 129
BARROW, AK 99723
ATTN: ERIK KENNING

STATE OF ALASKA DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINING, LAND & WATER
3700 AIRPORT WAY
FAIRBANKS, AK 99709
ATTN: JEANNE PROULX

ADJACENT LAND OWNERS



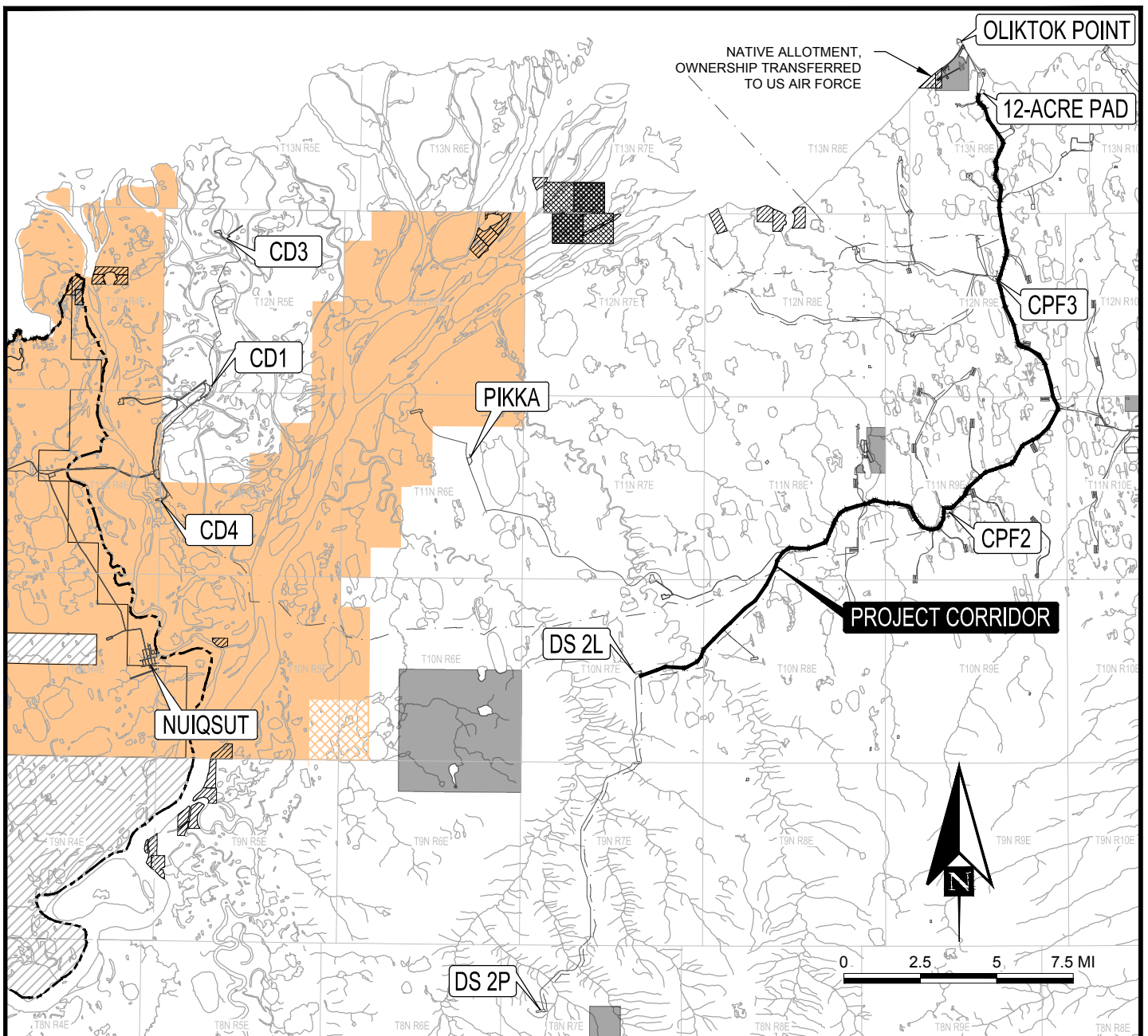
REFERENCE:

APPLICANT: CONOCOPHILLIPS
ALASKA, INC

PROPOSED: KUPARUK ROAD
UPGRADES (WILLOW
MODULE TRANSPORT)

AT: NORTH SLOPE, ALASKA

SHEET **3** of **12** 3/14/2023



LEGEND

	ALASKA DEPARTMENT OF NATURAL RESOURCES (DNR)
	BUREAU OF LAND MANAGEMENT (BLM)
	KUUKPIK VILLAGE CORPORATION
	ASRC CORPORATION
	NATIVE ALLOTMENTS – PENDING & PATENTED
	NORTH SLOPE BOROUGH MUNICIPAL ENTITLEMENT
	PRIVATE LANDS
	NATIONAL PETROLEUM RESERVE ALASKA (NPRA) BOUNDARY

ADJACENT LAND OWNERSHIP MAP



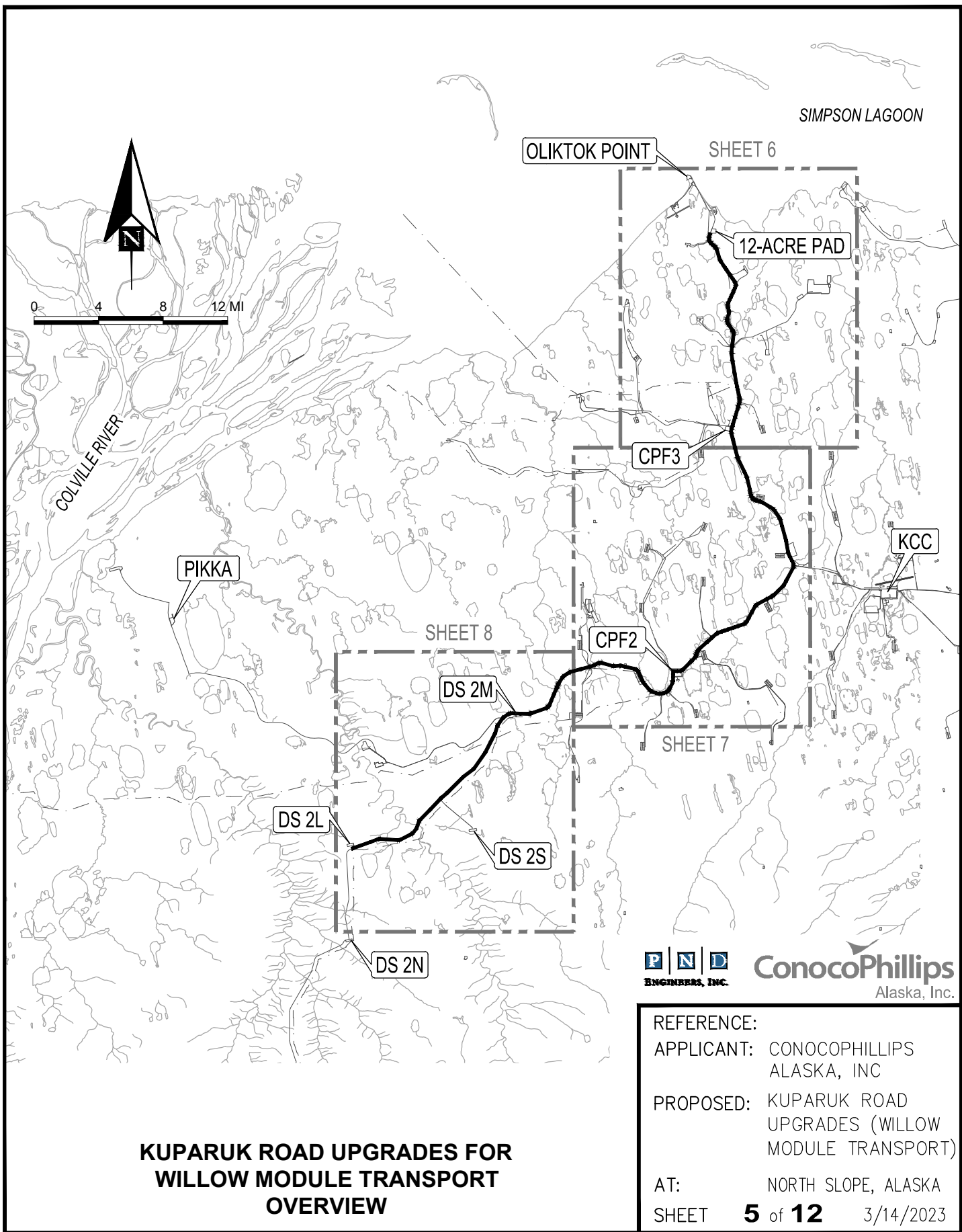
REFERENCE:

APPLICANT: CONOCOPHILLIPS ALASKA, INC

PROPOSED: KUPARUK ROAD UPGRADES (WILLOW MODULE TRANSPORT)

AT: NORTH SLOPE, ALASKA

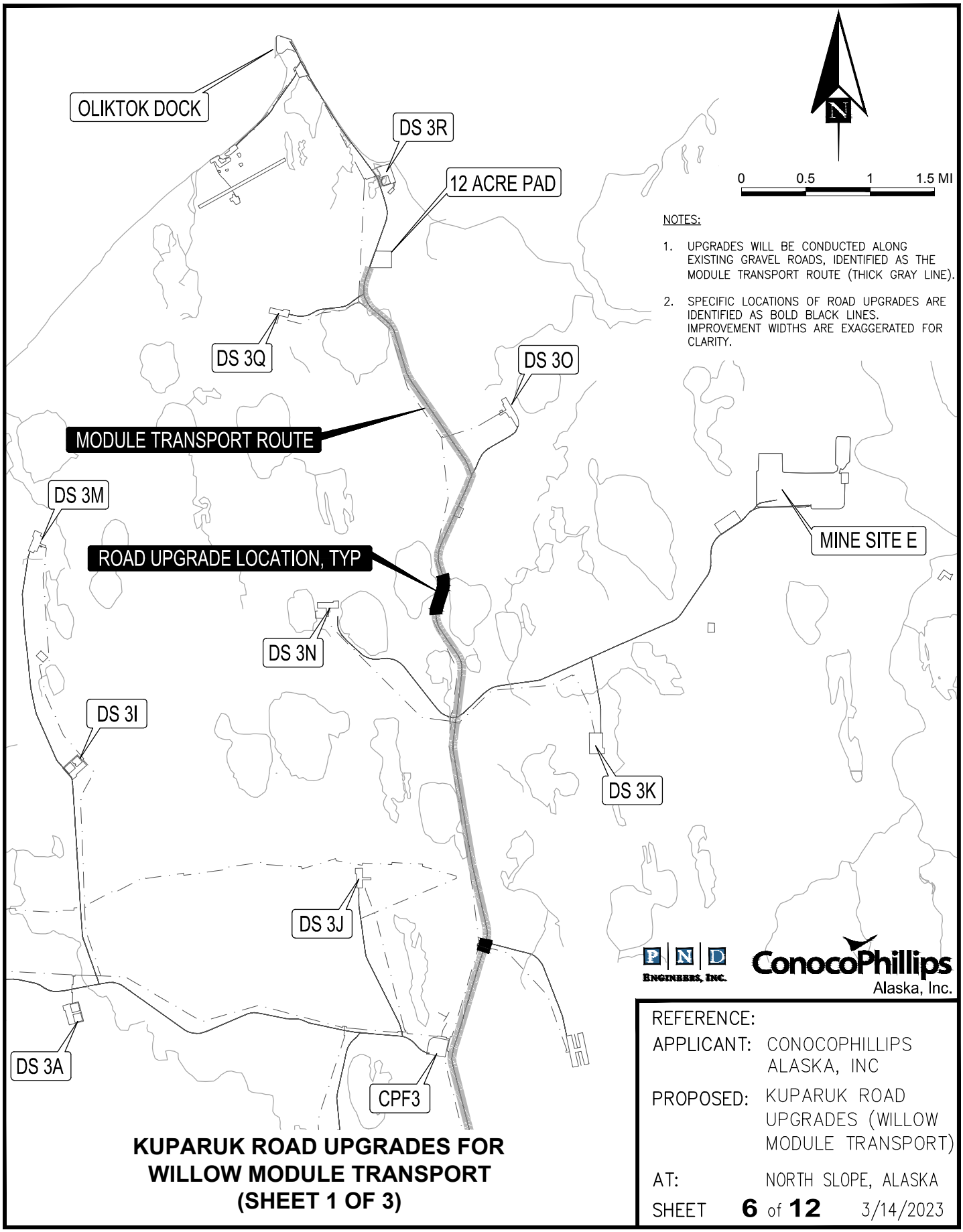
SHEET **4** of **12** 3/14/2023



**KUPARUK ROAD UPGRADES FOR
WILLOW MODULE TRANSPORT
OVERVIEW**



REFERENCE:
APPLICANT: CONOCOPHILLIPS
ALASKA, INC
PROPOSED: KUPARUK ROAD
UPGRADES (WILLOW
MODULE TRANSPORT)
AT: NORTH SLOPE, ALASKA
SHEET **5** of **12** 3/14/2023



OLIKTOK DOCK

DS 3R

12 ACRE PAD

DS 3Q

DS 30

MODULE TRANSPORT ROUTE

DS 3M

ROAD UPGRADE LOCATION, TYP

DS 3N

DS 3I

DS 3K

MINE SITE E

DS 3J

DS 3A

CPF3

**KUPARUK ROAD UPGRADES FOR
WILLOW MODULE TRANSPORT
(SHEET 1 OF 3)**



0 0.5 1 1.5 MI

- NOTES:**
- 1. UPGRADES WILL BE CONDUCTED ALONG EXISTING GRAVEL ROADS, IDENTIFIED AS THE MODULE TRANSPORT ROUTE (THICK GRAY LINE).
 - 2. SPECIFIC LOCATIONS OF ROAD UPGRADES ARE IDENTIFIED AS BOLD BLACK LINES. IMPROVEMENT WIDTHS ARE EXAGGERATED FOR CLARITY.



REFERENCE:
APPLICANT: CONOCOPHILLIPS ALASKA, INC
PROPOSED: KUPARUK ROAD UPGRADES (WILLOW MODULE TRANSPORT)
AT: NORTH SLOPE, ALASKA
SHEET **6** of **12** 3/14/2023



0 0.5 1 1.5 MI

NOTES:

1. UPGRADES WILL BE CONDUCTED ALONG EXISTING GRAVEL ROADS, IDENTIFIED AS THE MODULE TRANSPORT ROUTE (THICK GRAY LINE).
2. SPECIFIC LOCATIONS OF ROAD UPGRADES ARE IDENTIFIED AS BOLD BLACK LINES. IMPROVEMENT WIDTHS ARE EXAGGERATED FOR CLARITY.

MODULE TRANSPORT ROUTE

DS 3B

DS 1Q

DS 2W

KCS

DS 1Y

**CHARLIE CREEK
(FISH BEARING)
SEE SHEET 10**

**CHARLIE CREEK
TRIBUTARIES 1 & 2
(FISH BEARING)
SEE SHEET 11 & 12**

DS 2U

DS 2X

DS 2T

MINE SITE F

DS 2V

DS 2Z

ROAD UPGRADE LOCATION, TYP

DS 2A

DS 2C

CPF2

DS 2B

DS 2H

DS 2F



**KUPARUK ROAD UPGRADES FOR
WILLOW MODULE TRANSPORT
(SHEET 2 OF 3)**

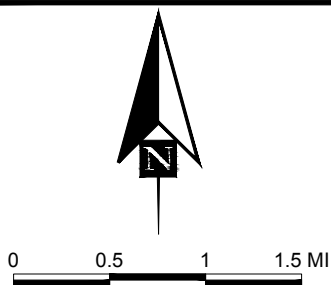
REFERENCE:

APPLICANT: CONOCOPHILLIPS
ALASKA, INC

PROPOSED: KUPARUK ROAD
UPGRADES (WILLOW
MODULE TRANSPORT)

AT: NORTH SLOPE, ALASKA

SHEET **7** of **12** 3/14/2023



NOTES:

1. UPGRADES WILL BE CONDUCTED ALONG EXISTING GRAVEL ROADS, IDENTIFIED AS THE MODULE TRANSPORT ROUTE (THICK GRAY LINE).
2. SPECIFIC LOCATIONS OF ROAD UPGRADES ARE IDENTIFIED AS BOLD BLACK LINES. IMPROVEMENT WIDTHS ARE EXAGGERATED FOR CLARITY.

ROAD UPGRADE LOCATION, TYP

DS 2M

MODULE TRANSPORT ROUTE

DS 2L

DS 2S



ConocoPhillips
Alaska, Inc.

REFERENCE:

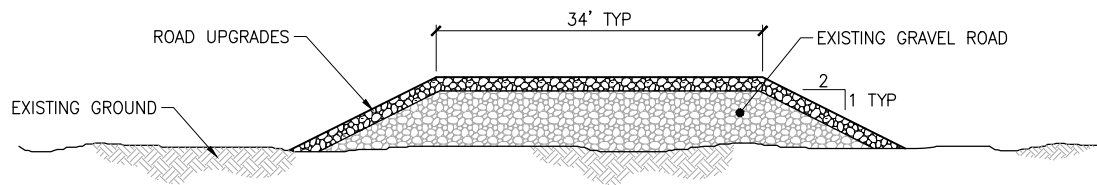
APPLICANT: CONOCOPHILLIPS
ALASKA, INC

PROPOSED: KUPARUK ROAD
UPGRADES (WILLOW
MODULE TRANSPORT)

AT: NORTH SLOPE, ALASKA

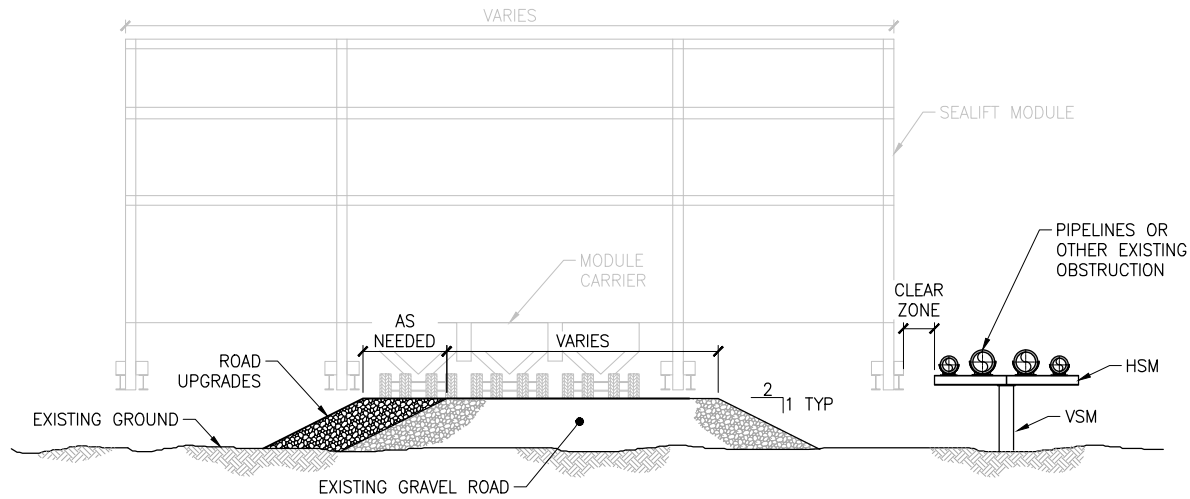
SHEET **8** of **12** 3/14/2023

**KUPARUK ROAD UPGRADES FOR
WILLOW MODULE TRANSPORT
(SHEET 3 OF 3)**



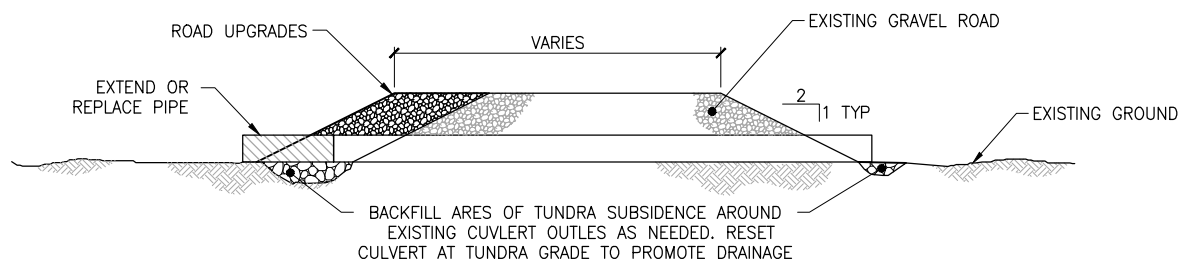
VERTICAL CURVE ROAD UPGRADES - TYPICAL SECTION

NOT TO SCALE



ROAD UPGRADE TYPICAL SECTION

NOT TO SCALE



CULVERT EXTENSION TYPICAL SECTION

NOT TO SCALE

TYPICAL ROAD AND CROSS DRAINAGE CULVERT SECTIONS



REFERENCE:

APPLICANT: CONOCOPHILLIPS
ALASKA, INC

PROPOSED: KUPARUK ROAD
UPGRADES (WILLOW
MODULE TRANSPORT)

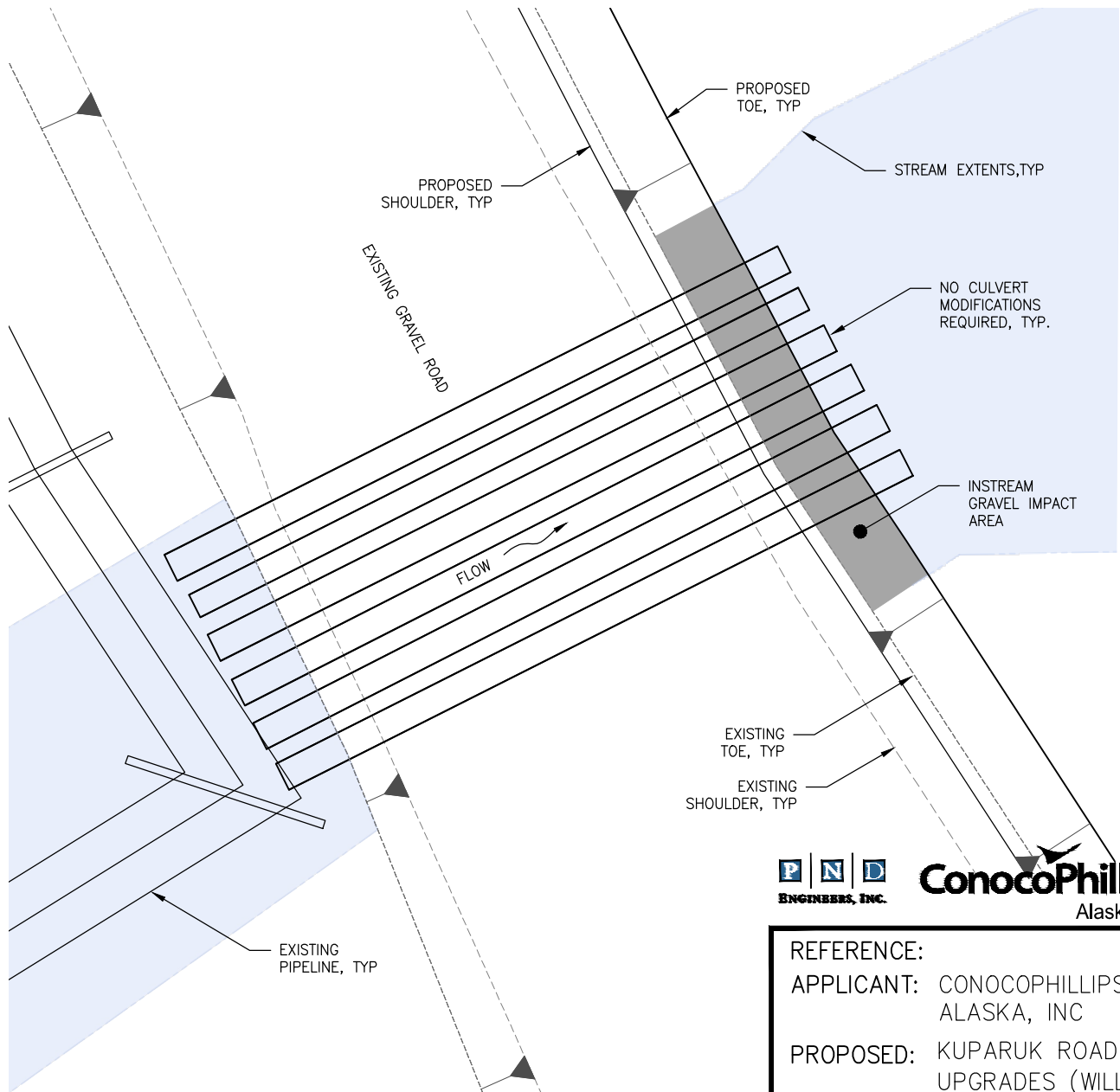
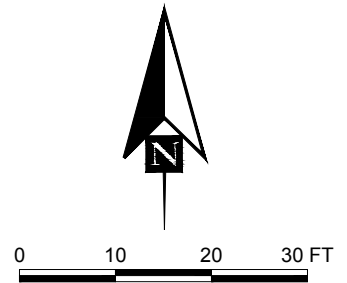
AT: NORTH SLOPE, ALASKA

SHEET **9** of **12** 3/14/2023

CHARLIE CREEK QUANTITIES	
GRAVEL FOOTPRINT	415 SF, 0.010 AC
GRAVEL FILL	9 CY

NOTES:

1. STREAM EXTENTS ARE APPROXIMATE AND HAVE BEEN DEVELOPED FROM AERIAL IMAGERY. WATER SURFACE EXTENTS AND ELEVATIONS VARY SEASONALLY.
2. FISH BEARING STREAMS WERE IDENTIFIED PER, 'TECHNICAL REPORT NO. 80-01, "A SURVEY OF STREAM CROSSING STRUCTURES IN THE NORTH SLOPE OILFIELDS," BY WILLIAM A. MORRIS AND JACK F. WINTERS. DATED FEBRUARY 2008. ALASKA DEPARTMENT OF NATURAL RESOURCES OFFICE OF HABITAT MANAGEMENT AND PERMITTING.'



**CHARLIE CREEK
FISH HABITAT IMPACTS
PLAN VIEW**



ConocoPhillips
Alaska, Inc.

REFERENCE:

APPLICANT: CONOCOPHILLIPS
ALASKA, INC

PROPOSED: KUPARUK ROAD
UPGRADES (WILLOW
MODULE TRANSPORT)

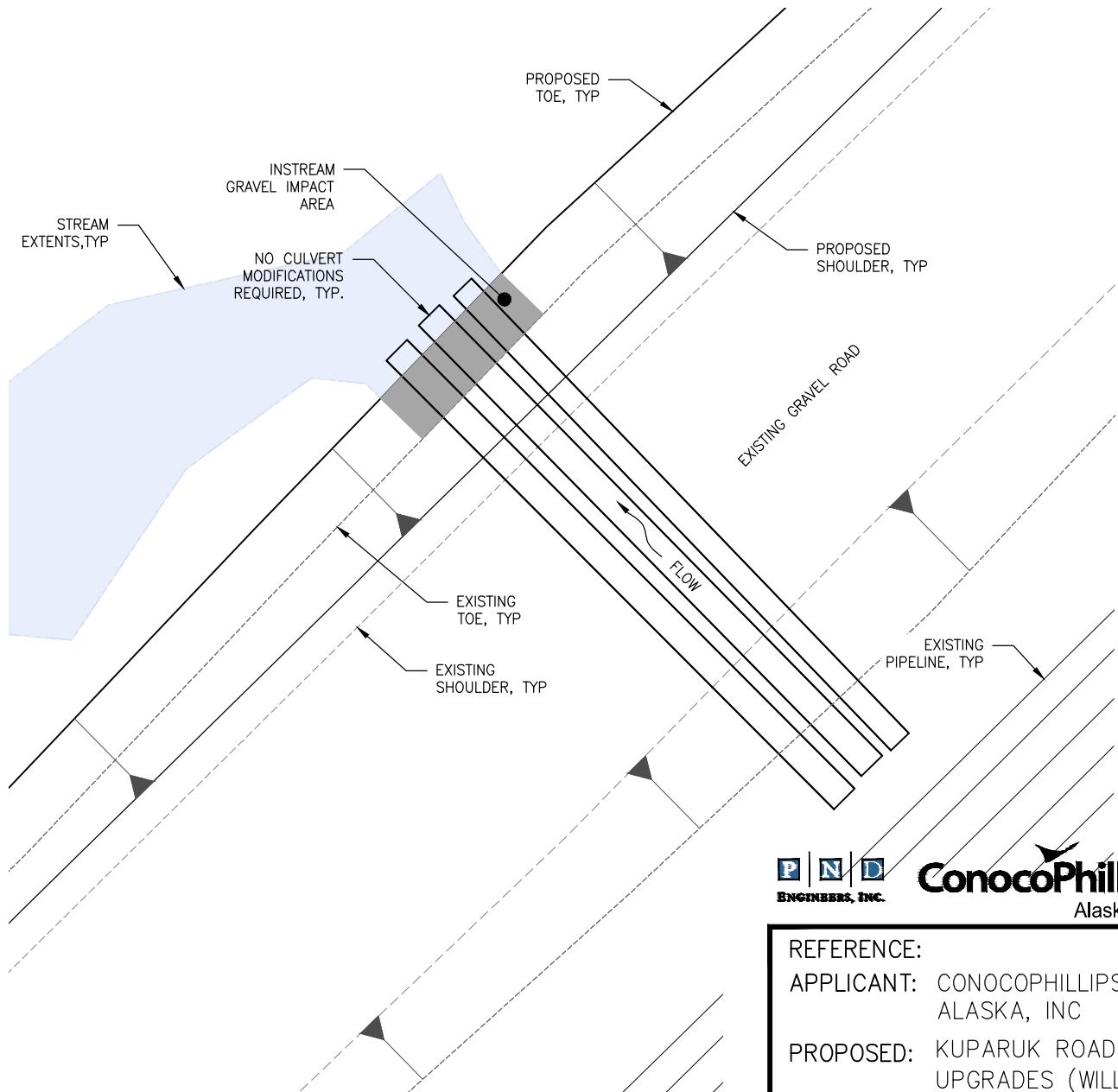
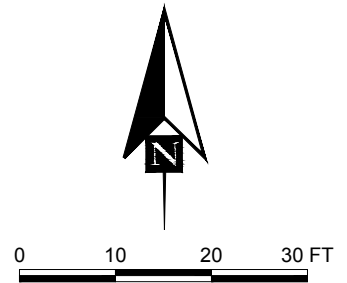
AT: NORTH SLOPE, ALASKA

SHEET **10** of **12** 3/14/2023

CHARLIE CREEK TRIBUTARY 1 QUANTITIES	
GRAVEL FOOTPRINT	147 SF, 0.003 AC
GRAVEL FILL	5 CY

NOTES:

1. STREAM EXTENTS ARE APPROXIMATE AND HAVE BEEN DEVELOPED FROM AERIAL IMAGERY. WATER SURFACE EXTENTS AND ELEVATIONS VARY SEASONALLY.
2. FISH BEARING STREAMS WERE IDENTIFIED PER, 'TECHNICAL REPORT NO. 80-01, "A SURVEY OF STREAM CROSSING STRUCTURES IN THE NORTH SLOPE OILFIELDS," BY WILLIAM A. MORRIS AND JACK F. WINTERS. DATED FEBRUARY 2008. ALASKA DEPARTMENT OF NATURAL RESOURCES OFFICE OF HABITAT MANAGEMENT AND PERMITTING.'



**CHARLIE CREEK TRIBUTARY 1
FISH HABITAT IMPACTS
PLAN VIEW**



REFERENCE:

APPLICANT: CONOCOPHILLIPS
ALASKA, INC

PROPOSED: KUPARUK ROAD
UPGRADES (WILLOW
MODULE TRANSPORT)

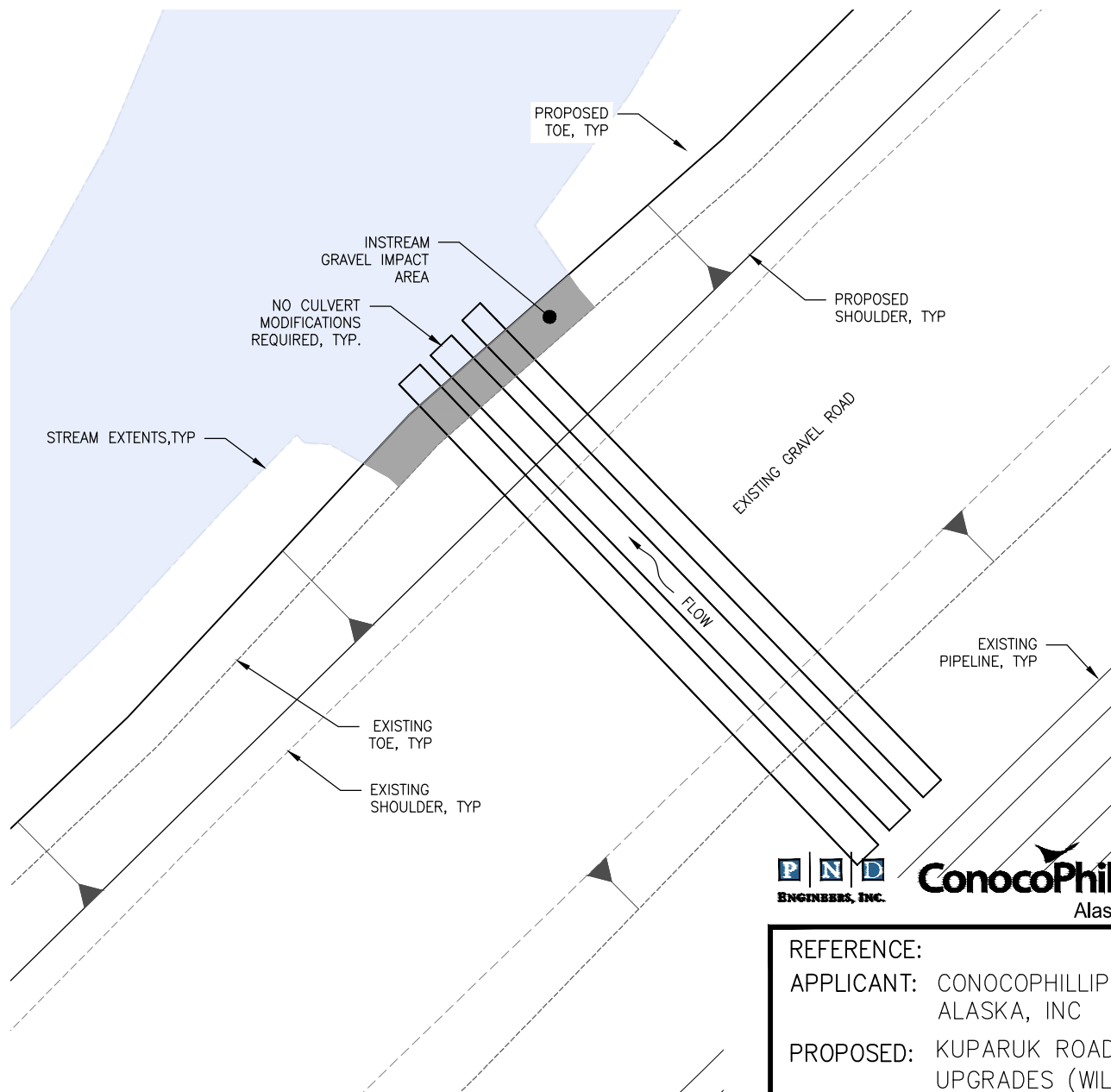
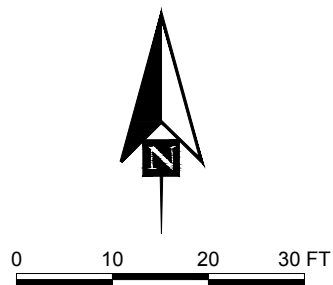
AT: NORTH SLOPE, ALASKA

SHEET **11** of **12** 3/14/2023

CHARLIE CREEK TRIBUTARY 2 QUANTITIES	
GRAVEL FOOTPRINT	162 SF, 0.004 AC
GRAVEL FILL	3 CY

NOTES:

1. STREAM EXTENTS ARE APPROXIMATE AND HAVE BEEN DEVELOPED FROM AERIAL IMAGERY. WATER SURFACE EXTENTS AND ELEVATIONS VARY SEASONALLY.
2. FISH BEARING STREAMS WERE IDENTIFIED PER, 'TECHNICAL REPORT NO. 80-01, "A SURVEY OF STREAM CROSSING STRUCTURES IN THE NORTH SLOPE OILFIELDS," BY WILLIAM A. MORRIS AND JACK F. WINTERS. DATED FEBRUARY 2008. ALASKA DEPARTMENT OF NATURAL RESOURCES OFFICE OF HABITAT MANAGEMENT AND PERMITTING.'



**CHARLIE CREEK TRIBUTARY 2
FISH HABITAT IMPACTS
PLAN VIEW**



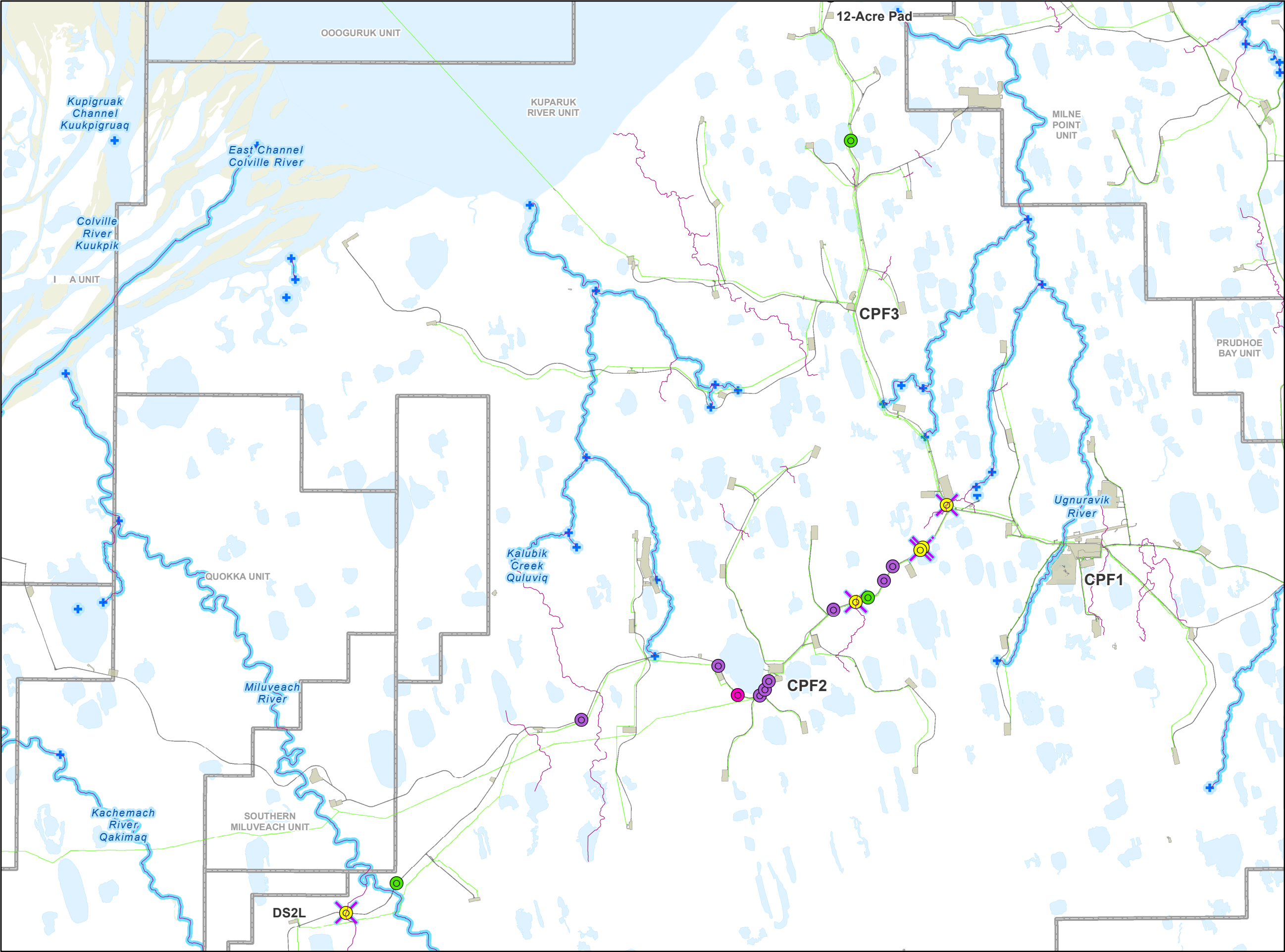
REFERENCE:

APPLICANT: CONOCOPHILLIPS
ALASKA, INC

PROPOSED: KUPARUK ROAD
UPGRADES (WILLOW
MODULE TRANSPORT)

AT: NORTH SLOPE, ALASKA

SHEET **12** of **12** 3/14/2023



Willow

KRU Road Improvements Culvert Locations

KRU Road Improvements

- Culvert Extension
- Culvert Replacement
- Road Improvement
- Road improvement/Culvert Replacement
- Fish Bearing

ADFG Fish Steams and Points

- Suspected Fish Stream
- Anadromous Fish Stream Junction Points
- Anadromous Fish Streams

Infrastructure

- Pipeline
- Road
- Pad

Boundaries

- Oil and Gas Unit

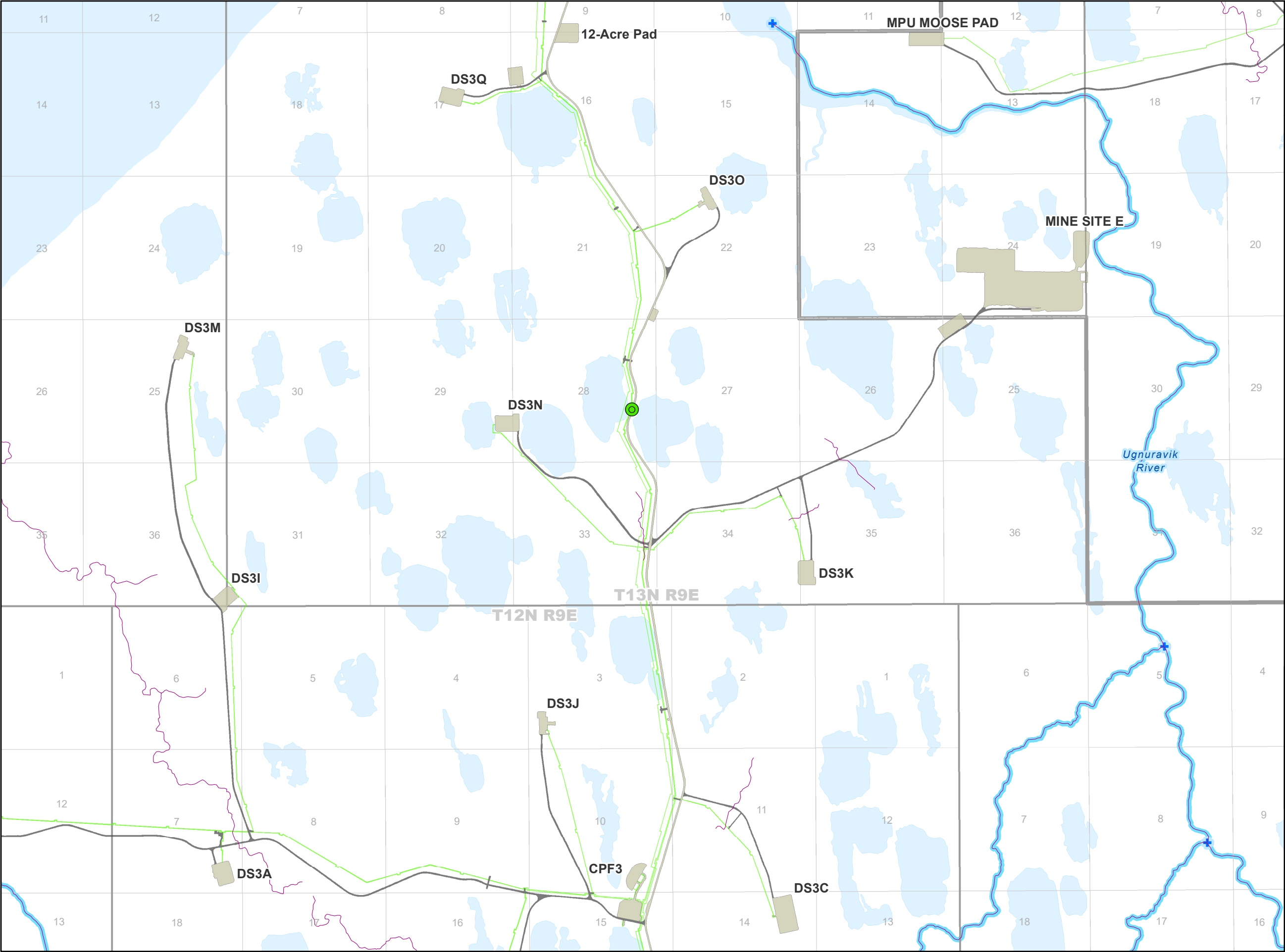
Map Extent

N

0 1 2 Miles

ConocoPhillips
Alaska, Inc.

March 14, 2023



Willow

KRU Road Improvements

12 Acre Pad

Affected Culverts

KRU Road Improvements

- Culvert Extension

ADFG Fish Steams and Points

- Suspected Fish Stream
- Anadromous Fish Stream Junction Points
- Anadromous Fish Streams

Infrastructure

- Pipeline
- Road
- Pad

Boundaries

- Oil and Gas Unit

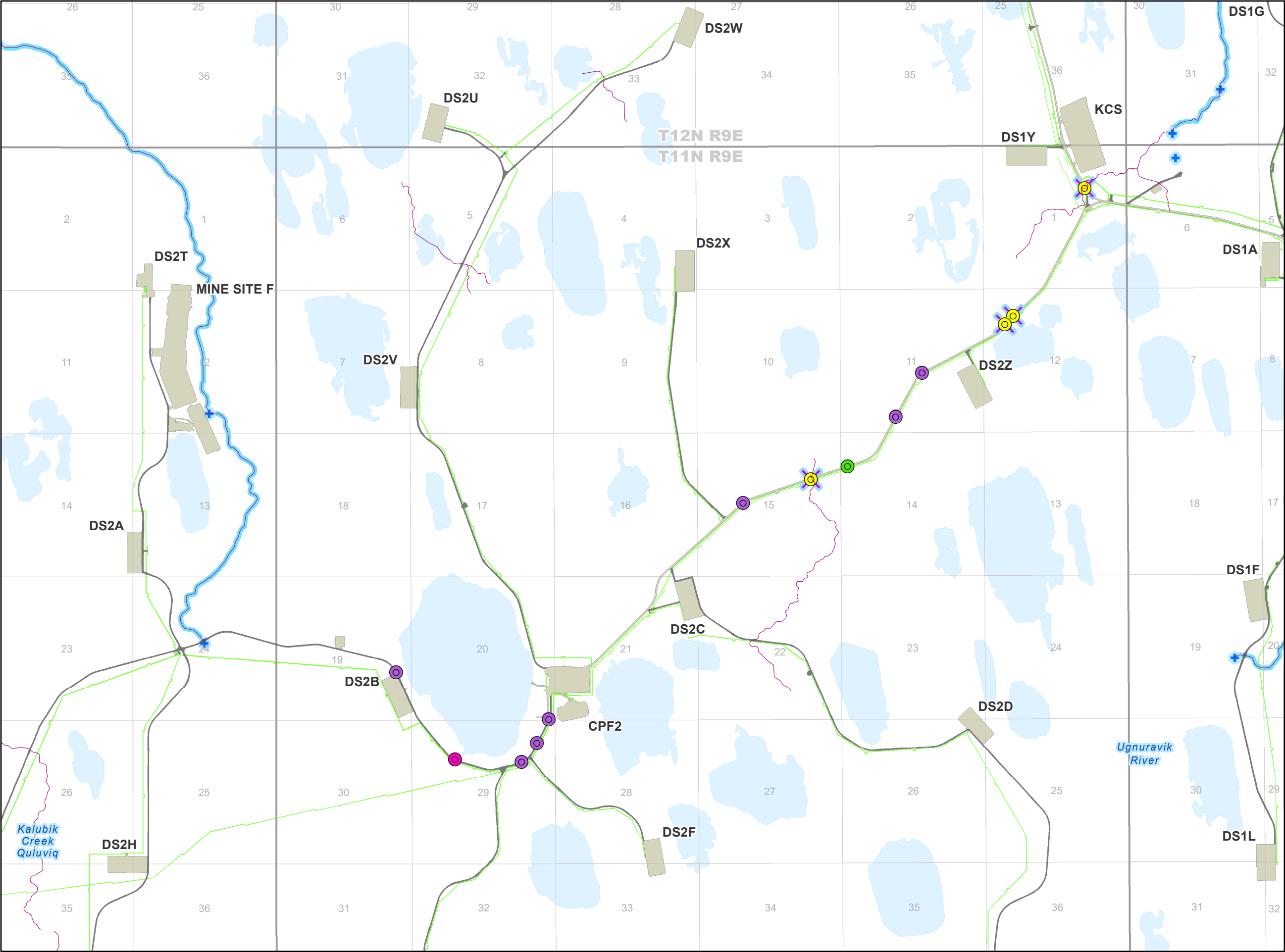
Alpine
Kuparuk
Map Extent
NPR-A
TAPS

N

0 0.5 1 Miles

ConocoPhillips
Alaska, Inc.

March 13, 2023



Willow

KRU Road Improvements

CPF2

Affected Culverts

KRU Road Improvements

- Culvert Extension
- Culvert Replacement
- Road Improvement
- Road improvement/Culvert Replacement
- Fish Bearing

ADFG Fish Steams and Points

- Suspected Fish Stream
- Anadromous Fish Stream Junction Points
- Anadromous Fish Streams

Infrastructure

- Pipeline
- Road
- Pad

Boundaries

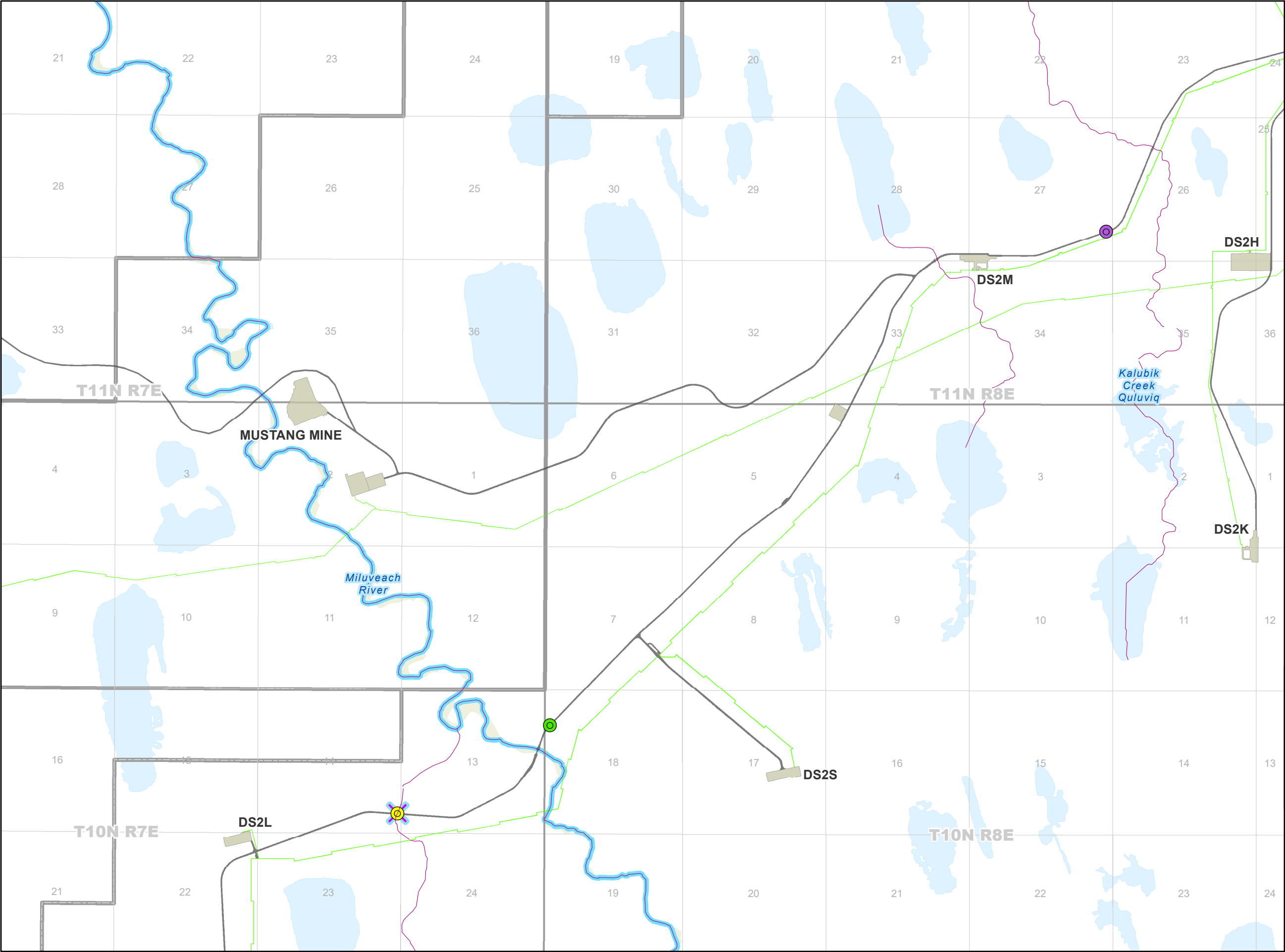
- Oil and Gas Unit

N

0 0.5 1 Miles

ConocoPhillips
Alaska, Inc.

March 13, 2023



Willow

KRU Road Improvements DS2L

Affected Culverts

KRU Road Improvements

- Culvert Extension
- Culvert Replacement
- Road Improvement
- Fish Bearing

ADFG Fish Steams and Points

- Suspected Fish Stream
- Anadromous Fish Streams

Infrastructure

- Pipeline
- Road
- Pad

Boundaries

- Oil and Gas Unit

N

0 0.5 1 Miles

ConocoPhillips
Alaska, Inc.

March 13, 2023